

Z88 EPROM

August 1990

Vol.4 No.6

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Club Addresses

All articles for Z88 EPROM and any membership matters (except Software Library) should be sent to:

Z88 USERS' CLUB
68 WELLINGTON STREET
LONG EATON
NOTTINGHAM
NG10 4NG

All requests for software from the Club Software Library, (but not special offers), items for inclusion in the Library, and EPROMs for erasure should be sent to:

THE SOFTWARE LIBRARY
Z88 USERS' CLUB
3/8 JENNER ROAD
GUILDFORD
SURREY
GU1 3PL

Please note that the **Library** address is the one to use when sending for a list of Library programs - this list is **not** available from the main Club address. Be sure to enclose £1 plus postage for the list.

The Club CLI Library is run by:

MICHAEL HEY
18 WOODSIDE ROAD
SANDIACRE
NOTTINGHAM
NG10 5GP

Any CLI's for the Library, requests for CLI's and the list of CLI programs should be sent to Michael Hey.

ALWAYS include your Membership Number with any correspondence. This is not just to be awkward - now the Club is large it can be very time-consuming searching the database for a member's number. Your number is printed on the address label of each issue of Z88 EPROM. Please be sure to enclose a stamped-addressed envelope with anything needing a reply.

Editorial

Here we are back again after the July break - I hope you didn't miss your monthly shot of Z88 EPROM too much! You may have noticed a rather drastic change in appearance back to the old style of Z88 EPROM - typed, not desktop published. This is due to the catastrophic failure of the DeskPress DTP program at the last minute, which has meant a panic reversion to the old technique of producing the magazine. Hopefully, the DTP problems will be resolved soon, and Z88 EPROM will be back as normal next time!

Being temporarily freed from the rigours of magazine production allowed me to catch up on some of my long-outstanding correspondence. The pile is still big enough for me to suggest that where possible, you should write to a Helpliner rather than to me!

You may remember that last time I said that it had been a quiet month - June had nothing on July for being quiet! In order to liven things up, if you know of someone with a Z88 who is not a member, encourage them to join. If you would like some information leaflets about the Club, simply write in and ask for some. Why not badger your local dealer into distributing Club leaflets?

Also during the last month I have set the date for the next Club Workshop. Saturday 27th October is the day, and the venue is at Milton Keynes. The format is going to be rather different to last year's Workshop - this time around there will be no formal presentations, and the accent will be firmly on meeting the experts, and sorting out your own queries and problems. As well as discussion groups on various topics, there will also be a very wide range of Z88 produce on sale, I suspect the widest ever variety of Z88 software and hardware under one roof, and all placed at your disposal! All in all it proves to be a very interesting day, and remember that space is strictly limited, and admission is by ticket only, price £3. See the ad elsewhere in this issue for more details.

Onto the subject of shows, and by the time you read this many of you will have visited us at the All Formats Show on 3rd/4th August. With this issue you should also find a complimentary ticket worth £3 for the next All Formats Show - this time a one-day event on Saturday 1st September.

Please come along and see us, and we will have the usual array of goodies on sale; back numbers, spares, binders. Talking of binders, please start ordering them again, as by the time you read this I should have just taken delivery of another batch, and storage space is at a premium!

Newsletters

TOP ITEM of news this time must be the changes that are taking place at Cambridge Computer.

The only problem is that it has been very difficult for me to find out any solid facts. It has been quite widely reported that Cambridge have recently received a much-needed injection of capital, and that the operation at Cambridge is being moved to Glasgow, reportedly so that the CCL staff can be nearer the Z88 production plant at SCI in Scotland. While the geographic movements might seem strange, even stranger is the fact that Sir Clive Sinclair has resigned as Chairman, and will no longer be involved in the day to day running of the business. Sir Clive does, however, remain a shareholder. When I contacted CCL's public relations firm, NMA, I was told that they no longer held the Cambridge account, and so they could offer no comment on the movements. Hopefully before the next issue goes to press I shall have visited CCL (in Cambridge!) and should be able to report accurately what is happening.

A BUMPER CROP of news this time from Rakewell: First is a new program EPROM Rakewell are offering. If you already have PC Link II, you simply send your PC Link EPROM off to Rakewell with £9.95; and Rakewell will return it to you with not one but THREE programs.

These are:

PC Link - This program might seem familiar.....
EP Fetch - A marvellous utility which makes fetching programs from EPROM so much easier. It offers a Filer-like selection of all the files on an EPROM - including those that have been "deleted" by overwriting. As well as meaning you no longer have to remember and type in the full file name, the utility also tells you the total number of bytes used on the EPROM, thus allowing the more mentally agile among you to instantly deduce the amount of free space still available. (I use the Calculator!)

The third program is **Scrazble**, the old "shoot 'em up" game from Wordmongers, which alone used to cost over £20, and can be relied upon to relieve a bit of tedium now and again, although personally I find the game too easy!

If you don't have the PC Link II EPROM the cost of the same programs on a new EPROM is £29.33 inclusive of post and packing and VAT.

ANOTHER NEW PRODUCT due soon from Rakewell is Squeez-88 - a file compression system for the Z88. This is basically a clever piece of software which will compress any file on your Z88 so that it takes up less RAM - in many cases only 40% of the space taken by the original file. This means that 128k of RAM on the Z88 would be able to hold up to 320k of files, or 512k RAM up to 1.2Mbytes!

The software is still in its development stages, but I can reveal that the user will be presented with two Filer-like windows, one containing the directory of normal files, the other Squeezed files. Squeezing or UnSqueezing will be simply a matter of marking the file(s) you want, selecting the command, and away it goes!

The price of SqueeZ-88 still has not been finalised - all Vic Gerhardi will commit himself to is "less than the cost of a 128k RAM card" - ie. less than £50. I would like to see it nearer £40, because I think Vic will sell more, but will reserve judgement until I've seen this exciting new product.

FINALLY, in this edition of "Rakewell Newslines", Vic has set the dates for another series of his acclaimed Z88 Training Days.

Z88 EPROM - August 1990

The itineraries remain much the same as we have reported before, so I shall just give you the dates and cost:

Steaming up the Z88 - Friday Evening 7th September - £21.85 per person.

The Eighth Z88 Training Day - Saturday 8th September - £79.35 per person, including lunch.

The Sixth Z88 Follow-up Day - Saturday 13th October - £79.35 per person, including lunch.

The Z88 Fact Finding Session - date to be announced.

The day courses are held at Aston Clinton, near Aylesbury, Bucks. All prices include VAT. Further details from Vic Gerhardi on 0908 366009 or 0296 630617.

RANGER COMPUTERS have announced yet another product for the Z88 called Lexlink-C. The original version of Lexlink was commissioned by the Ministry of Defence to link Z88's to PC's running the Lexlink word processor. Ranger have now improved the Lexlink package and launched it as a general purpose Z88-PC link.

The main improvement over other Z88 to PC products is extra speed - up to four times faster than PC Link II for example. Multiple file transfers, always a chore with PC Link II, are made as easy as marking the files you need transferring. Lexlink-C features true data transparency, and should the link be broken at either end (say, to run another Z88 application) the program happily sits waiting and automatically re-establishes contact and carries on where it left off.

Lexlink-C costs £49.50 + £2.50 postage, + VAT. Further details from Ranger Computers - see their advertisement in this issue.

Z88 EPROM - August 1990

CAMBRIDGE COMPUTER have announced a Z88 Summer Special pack, on sale for a limited period only. This gives you the same as the basic All In One Pack (Z88, 128k RAM, case, mains adapter, batteries) but CCL are also including a FREE EPROM eraser and a 32k EPROM with the pack. This gives you added value of about £60 at retail prices.

Those of you who read Personal Computer World or Computer Shopper will also have noticed full page ads for the Z88 Summer Special pack - the first advertising CCL have done in about 100 years (well it seems that long!). This is a promising sign, as it restates CCL's commitment to the Z88, and long may it continue.

Helpline

If you have a technical query, write to one of our Helpliners listed below. Please note that you should include a stamped addressed envelope or sufficient return postage for your reply.

CLI Files - Contact Michael Hey by post only at:
18 Woodside Road, Sandiacre, Nottingham. NG10 5GP

Z88 to Amstrad PCW Link - Please write in the first instance to: Mr A West, 16 Southway, Burgess Hill, Sussex. RH15 9ST.

ZBASE, CLI and all Wordmongers products except TX and Comms software - Contact Jason Crook (ex of wordmongers) at 4 Salisbury Close, Princes Risborough, Bucks. HP17 0JF. Telephone 08444 7075. I will also write to order in ZBASE.

Z88 EPROM - August 1990

zBASE - Help on commands and programming. I can accept info/programs on paper. EPROM, zTape cassettes or IBM disk. Contact Robin Jarvis, 27 Gloucester Road, Waterlooville, Hants. PO7 7BJ.

Z88 to Amstrad CPC Link - Contact Duncan W. Kennedy at 32 Otterston Grove, Dalgety Bay, Fife. KY11 5PA.

BASIC Programming - Contact Richard Russell at 59 Campbell Road, Gravesend, Kent. DA11 0JZ.

Interfacing Z88 to various hardware - Mac, BBC, PADS, also UNIX and C experience - Contact J.P. Knight Email JANET on jpknight@uk.ac.lut.sun, or snail mail during term time to Room 66, Hazlerigg-Rutland Hall, Loughborough University of Technology, Ashby Road, Loughborough, Leics, LE11 3TZ.

PipeDream/Diary/General - Contact Keith Winsor at 13 Swansea Road, Reading, Berks. RG1 8EY. Or Telecom Gold 82:TLR1747.

Z88-PCW Link - Using C-Port program. Please contact David Prestage at 47 Knighton Road, Otford, Sevenoaks, Kent. TN14 5LD.

Anything Educational - Please contact Bob Shore, 8 Anchor Close, Hathern, Leics. LE12 5HP. Telephone 0509 842670.

Z88 - Atari ST Links - Please contact Ian Salmon, 18 Fillioll Close, E. Hanningfield, Essex. CM3 8UY.

Can anyone offer Helpline for printer set ups, and general file transfer programs?

RANGER

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For a limited period only, we are able to offer a "Summer Special" starter pack including:
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Post and packing for the Summer Special is £4.50, or £11.00 next day delivery.

LEXLINK-C

A new version of our **LEXLINK** Z88 to PC communication package, originally developed for the MOD, is now available. The new version, **LEXLINK-C**, is designed for general purpose PC to Z88 communications and features much faster data rates than other PC-to-Z88 products, multiple file transfers and true data transparency.

LEXLINK consists of an application EPROM for the Z88, a PC disk (please specify 3.5" or 5.25") and a connecting cable (please specify 9 or 25 pin). The application is driven from the Z88, which displays "windows" showing the current PC and Z88 directories, together with a command menu.

If the program is interrupted, for instance in order to use a different application in either PC or Z88, communication is automatically re-established when **LEXLINK** is re-invoked. During file transfer, the Z88 screen shows a display of the file name currently being transferred, the file size, the progress of the transfer (in real time), and the number of files waiting in the queue.

The **LEXLINK** package also contains the standard PC Link II format converters for Wordstar and Lotus 123. For LEX users, Pipedream to LEX conversion software is available at extra cost.

LEXLINK-C is available now at £49.50. P & P £2.50.

HARDWARE PRODUCTS

RangerDisk IBM PC compatible disk drive for the Z88. Reads/writes 720K 3.5" disks in DOS 3.3 format, suitable for use as stand alone file storage for Z88 or as data transfer device in busy situations. Copies single or multiple files, truly data transparent. Supplied complete with Diskfiler application in EPROM for Z88, connecting cable and manual at £450.00. P & P £4.50. Optional mains adaptor £17.50.

Field Case The **Field case** is designed for outdoor and utility applications, and gives the Z88 substantial protection from the environment. Supplied complete with shoulder straps, the unique arrangement of the case allows Z88 to be used "hands free" while on the move. Price £70.00. P & P £4.50.

Battery Pack Rechargeable external battery pack, connects to Z88 mains adaptor socket, gives correct voltages and 8-12 Hr continuous operation, recharges overnight. Supplied complete with UK mains charger at £37.50. P & P £3.50.

ADAM (Analogue Data Acquisition Module) is an analogue-to-digital converter module for the Z88. It provides 8 analogue input channels with a +/- 2v range and a resolution of 100 μ v. Power is supplied externally, or from a modified version of the Z88 supplied by Ranger. **ADAM** is available from stock at £250.00.

Hardcase A ruggedised housing for the Z88. Developed by the New Zealand Ministry of Agriculture for recording fish catches at Sea, **Hardcase** enables a standard Z88 to be used in extreme environmental conditions. **Hardcase** is available at £495.00.

Z88 We keep the entire range of Z88 hardware and most supporting items in stock. Please enquire for details and prices.

SOFTWARE PRODUCTS

Vision-100 VT-100, 102, 220 and 320 terminal emulator for Z88. Gives scrolling 24-line screen, file capture/transmit and full range of screen and keyboard emulation features. Faster than many standard terminals and suitable for use with VAX applications as well as many other systems. Supplied on EPROM pack at £175.00, complete with manual. P & P £3.50.

CNC TX File capture/transmit facility allows Z88 to transport data for CNC (Computer Numerically Controlled) machine tools. Allows user to imbed header, trailer and end of line strings to match his existing systems. Supplied on EPROM pack at £55.00. P & P £3.50.

Zback Add-in utility for PC Link II, allows automatic backup of entire Z88 files to PC. Supplied on 5.25" disk at £15.00. P & P £2.50.

Please note that all prices exclude VAT. We accept official orders from qualifying UK companies and government organisations. All others, cheque or P.O. with order please. Next day delivery available on all items, subject to stock, £11.00.

Ranger Computers Ltd
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Queries, Hints & Tips

Nick Lewis (2086)

When prompting for input in a BASIC program it is often useful to be able to offer a default input string. There are several ways of doing this but the neatest way is to have the default in the input buffer in such a way that it can be edited just as if it had been typed in at the keyboard. No dialect of BASIC I have ever used on any machine supports this and this means that the only option is to write your own input routine instead of using the INPUT instruction. On the Z88 there is a simpler solution: Simply put the default string into the input buffer immediately before the INPUT statement using *CLI or OSCLI.

Try these examples;

```
10 *CLI NICK LEWIS
20 INPUT "WHAT IS YOUR NAME",N$
```

```
10 *CLI 3.141592653
20 INPUT "WHAT IS THE VALUS OF PI",P
```

```
10 INPUT "    WHAT IS YOUR NAME",N$
20 OSCLI "*CLI "+N$+"|~L":INPUT "PLEASE CHECK
YOUR NAME",N$
```

```
10 INPUT "    HOW OLD ARE YOU",A%
20 OSCLI "*CLI "+STR$(A%):INPUT "PLEASE CORRECT
YOUR AGE NOW",A%
```

I am sure that any BASIC programmer who writes interactive programs will love this technique.

Peter Nye (0735)

If you type on your lap and find that the Z88 slides about, use the Cambridge Topper as a platform. It's edge grips your clothes, and the Z88 backrest fits neatly into the horizontal groove across the Topper's face. This also elevates the Z88 to a more convenient angle, and provides a home for the Topper.

In PipeDream, if exact alignment of characters between successive rows is important, eg. when drawing a series of vertical lines; insertion of highlight codes at the same time as you enter your text makes it difficult to see whether your rows will print out correctly. Put the highlight codes in **after** you have completed the text. Now for a query. The Printer-Ed allows room for only nine character translations, which is too few if you are using a lot of mathematical symbols or Greek characters. Is there a simple way of increasing this number, preferably without leaving PipeDream? What seems to be needed is a keystroke which behaves like a highlight code, and that will add 128 to the ASCII number of each key on the board.

Barry Green (1660)

Brinley Platts (BP) query in May regarding CCL's Discovery 1200P portable modem rung an immediate bell. I use the 1200P and swear by it and its manual. There was however an unfortunate fault in the manufacturing, and I suspect it could be common to many units. Intermittent failures were eventually identified as a fault of the battery terminal clip. Within the (cheap) clip there was a faulty connection. The solution is quite simple - buy a new (not so cheap) clip, cut the wires on the modem, and solder on the new leads and clip. For a really professional look add heatshrink sleeving over the solder

joints. Since the battery compartment has limited space, arrange for the leads to have no excess slack, otherwise there is nowhere to tuck the excess.

As for the lack of BT approval; that's what makes the 1200P such a superb package (quoting BP's words). You see, BT in their endeavours to protect British manufacturers, will not approve anything that is too snazzy. The 1200P permits the user to switch between CCITT tones and Bell tones. Furthermore, the manual actually tell you how to do it! This means that users like me can use it as a portable and it can be used outside Europe. I use mine frequently in Japan which has a US-based (Bell tone) system. If I buy a BT approved modem (portable or not) then you should find that all visible means of switching the dialling tones is removed from the hardware and the manual. That way BT ensure that the user cannot unknowingly feed foreign frequencies into the network.

If BP would like to Email me on MAG 96467, assuming the fault lets him, then we could communicate further on the failures. Furthermore, if Roy was keeping pace, I could have Email'd this item and saved him a lot of retyping. how about it Roy - why not open the door?

(Point taken Barry - I really do find retyping things tedious and time consuming, but at the end of the day it boils down to lack of time. If I were accessable by Email I suspect I would have a deluge of queries to answer, and not many articles to boot. If I find myself with some free time, I might well reconsider, but until then, please send your contributions in on EPROM or disk, which will be returned after copying. - Roy)

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Z88 AT cable D9-D9	12.00	

SOFTWARE:

£

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Z88 Magic - Published by Kuma Computers ISBN No: 07457 0137 X

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Each program comes on a 3.5" disk, with a manual for £19.95

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Wordmongers Ltd.

2 Silverdale Close, Penn, Bucks. HP10 8JP. Tel 049 481 3591

What does the Z88 have in common with Hawaiian Tropic Royal sun oil? Two things. They both make you forget that you are in the sun and they both offer no protection against sun burn.

With the summer on its way out, many of you will have forgotten the information revealed last year that in very hot weather the Z88 display can suffer. Given the record temperatures in the UK I have to admit to some small problems myself while working in the garden. Which neatly brings me to the main item this month, namely open air computing.

This summer I've discovered no end of opportunities. So far the outdoor byte bashing has seen off my expenses, and a VAT return. And lest you cynical people conclude that I was using our own programs, I shall disabuse you. These were both done using Pipedream.

Most important: Any owners of Thinkz will be able to get a free upgrade to version 2 at the October user club meeting. Upgrades will otherwise cost £2 to cover post and packing. Our usual upgrade charge is £5 but after discussion with Roy at the club we have agreed that a full charge is inappropriate for this buggy first version and that a minimal cost only fee is more likely to be acceptable. I hope that is the feeling of our users who are of course very important to us.

By the time you read this, both I and the arch critic of Thinkz in far away Australasia will have put version 2 through considerable paces. Equally, Z88 dealers will also have adequate supplies available of version 2. Call Talent for an information leaflet

At the user club day I will have with me some zBASE programs for those everyday uses as well as full information about all our other programs including zTAPE and Zterm.

See you in October.

Tony

Product Enquiries: Please Call 030381 3883

Chris Edwards (3182)

I have discovered a way to prevent other instantiations of PipeDream being appended with addresses and/or dates when using funkey.bas.

If line 7 of the program is modified as follows, a new instantiation of PipeDream is always accessed. It assumes that funkey.bas is already in the list of suspended files and is entered by placing the highlight over it and pressing the enter key (rather than placing the highlight over BASIC and CHAINing the program from memory). When option 7 of the program is used the CLI exits to the Index which ensures that funkey.bas is at the top of the suspended activities list, then moves the screen highlight to PipeDream on the left to ensure that a new instantiation is accessed. This saves having to <>KILL all other instantiations before using the program.

I have also found that by adding @d@ into the "print address" line as shown then the date is automatically added without having to use date.cli.

```
7 DATA"LETTER HEADING", "~I~L~D~E|Z6 Broom Park,  
~EDartington, ~ETotnes, ~EDevon. ~ETQ96JR. ~E@d@~  
E|Z|LAR|Q"
```

Auto Deletion of Temporary Files

by Conrad Gempf (1322)

Some of the functions recommended in the Z88 user manual can cause the creation of temporary files - files used to hold data that the little black box only needs for the time being. An example of this is the file called :RAM.-/S.sgn that is created when you edit a BASIC program in

PipeDream using the method described on page 182 of the manual. In fact this file and its sister file :RAM.-/K.sgn are special files that can be used for a number of purposes, whenever it is desirable to redirect keyboard input or screen output. The device name :RAM.- means essentially "whatever RAM is available". See pages 181-3 and 186 of the manual for creating and using these files. I am concerned here with erasing them once they have served their purpose, something which you will notice that the manual tells you always to do.

To delete the files manually, you would have to go to the Filer, select the device :RAM.- and then erase each of the two files :RAM.-/S.sgn and :RAM.-/K.sgn. As an alternative, I suggest that you save this CLI file to your default RAM device, and let it do all the work. All you do is go to the Filer, highlight and select this CLI file, and type <>EX to execute it.

```
#+K#-K
#+S#-S
#F
|SV|~R~X~~E
.D 200
|ER
:RAM.-/S.sgn~E~E
|ER
:RAM.-/K.sgn~E~E
|SV|~R~X1~E
```

The first two lines of the program cause the files to be created if they do not exist. This is important so we don't get an error message later when we try to erase a file which may not exist. Line 3 takes us to the Filer. Line 4 brings up the Select Device window, erases the last character (which I assume will be a 1, as in :RAM.1.

If this is not the case with your machine, you will have to alter this line and the last one.) and types a hyphen instead. Line 5 is a delay command, causing the screen to stand still long enough for you to see the filenames in the newly selected device. Lines 6-9 erase the files, and the final line selects the device :RAM.1 again (as I've said above, if your default device is not :RAM.1 you will want to alter line 4 and this line).

With a little work, this program could be extended to delete the files created temporarily by the PROCE editor for BASIC described on page 197 of the new manual. Everything you'll need to know about the CLI language to do this can be found in the manual on pages 179-80. CLI looks hard because it's so concise. In reality, it's just as easy as BASIC.

Members' Letters

Richard Russell
Gravesend, Kent

Dear Roy,

A couple of items which may be of interest:

1) I have had a report of a problem with the graphics dump when used with certain printers, caused by a subtle printer incompatibility - the effect is that the bottom four rows of pixels fail to appear on the printout. The solution is to enter the following poke after the PATCH has been loaded: `?&2B9D=&BF`

2) Michael Hey rightly emphasises, in his article in the June issue, the value of searching a BASIC program for occurrences of certain variables etc. as an aid to debugging. However, there is no need to load the program into PipeDream to achieve this - you can do it in BASIC! The command to use is LIST IF followed by the string you wish to search for. For example LIST IF % will list all the lines containing references to integers.

You will find that you get many more PAGE WAITS than usual, and you will have to press the spacebar several times - this is caused by a small bug and is why LIST IF is not officially documented. You may also find that results are not always what you expect if the search string contains a BASIC keyword. Nevertheless, this is a very useful facility.

~~~~~  
Philip Hodson (0713)  
Dear Roy,

1) David Meadway (0495) asks in the December 1989 issue if there is a simple routine for cleaning and maintaining the Z88 keyboard instead of buying a new one when the keys fail to respond.

Yes David, I put my Z88 away for a month, in perfect working order, but when I got it out again, half the keys failed to work properly. My machine being only a year old, I was highly peeved, and equally reluctant to buy a new keyboard.

In the event, I backed up all my files, then lifted the rubber keyboard. I then swabbed the back of each key with a "Mediswab".

This is a little square of material impregnated with isopropyl alcohol as used by doctors giving injections, and acupuncturists such as myself.

Isopropyl is a good cleanser, and dewaxer. Some plastics are supposed to be sensitive to alcohol in various forms, but I took that risk and swabbed the circuit board as well. Hey presto, when I relaid the keyboard, all worked perfectly. My faulty computer was working as well as when new. Incidentally, it wasn't necessary to remove the keyboard entirely from the case. I just lifted up what was prepared to come.

The operation did not disturb the files in RAM.

Boots the Chemists sell Mediswabs should others like to try the same.

2) In addition to the extended RAM's, which are now being internalised by an American company (Cambridge Computers told me they, CC, couldn't do it), I would like to know if any other more entrepreneurial spirit could internalize other well used applications such as Spellmaster and Z Tape?

The more that can be internalized the less jiggling with those damned Eprom slots!

4) I support the idea of a Z88 annual! As I look through copies of the Z88 Eprom I find pages of readers questions which have never been fully answered, or are only answered several magazines further forward. A useful function of the Annual would be to gather up all these questions, together with the various relevant replies, and also to list those questions for which no answers have yet been provided.

5) Further report on <>' which I mentioned in Volume 3.5.7., (an observation that one can make the apostrophe slant the other way on the keyboard).

Unfortunately, it doesn't print out as an apostrophe, but as a different character. So it is necessary to find the code, and make the necessary changes in the Printer Editor. The code for <>' is 96, which for my Olympia Carrera needs to be translated to 39.

In order to find out the codes used by each key on the keyboard, enter Basic, [ ]B and write the following Basic program:

```
10 PRINT "Please press a key...(Return to Exit)"
20 A=INKEY(10)
30 IF A=(-1) THEN 20
40 PRINT CHR$(A),"=",A
50 IF A<>13 THEN 10
```

Now save the file by typing  
SAVE "KEYASCII.BAS"

Then run your program by typing RUN  
You should get the following:

Please press a key...(Return to Exit)

And if you enter: f or <>' or whatever other ch  
you wish,  
you should get:

f = 163

or

<>' = 96

You've now got the information about the Z88 codes which you need to enter translations in the Printer Editor. The corresponding codes for your particular printer come from your printer's manual.

Magic isn't it? But then I've attended the Rakewell seminars!

6) As my printer is an Olympia Carrera typewriter, I have the necessary printer editor codes if anyone wants them.

7) It is very useful to own two Z88's, but inevitably if you do, the time will come when you want to transfer data between them. A simple way is to make up a lead to plug into each RS232 port, and transfer using Imp-Export.

Purchase two 9 pin male plugs, a length of cable with at least three wires, and get out your soldering iron and solder. Only three pins in the plugs need be used. If you look carefully they are numbered one to nine.

Connect Pin no. 2 in one male plug, to pin number 3 of the other male plug, using one wire in your length of lead.

Similarly, connect Pin no. 3, of your first male plug, to pin no. 2 of the second male plug using another wire of the lead.

Now connect Pin no 7 of the first plug to pin no. 7 of the other plug using a third lead. Cut back any remaining leads.

Connect up the two RS232 ports using your new lead and check the connections as follows:

## Z88 EPROM - August 1990

Press [J]V on both your Z88's thereby entering the terminal on each. On your first computer, type a few keys, and you should see those keys displayed on your second computer.

Now go to the second computer, type again, and see the display on the first Z88.

If its not there, there must be some fault in your wiring.

If all is well try transferring a file from one Z88 to the other. Let us assume you have called this file "TestFile", and that it is in a directory called "Pending".

On the Z88 which is to send the file press [J]X to enter Imp-Export. Now type S as required by the prompt, then press ENTER. Now type in the filename in full, e.g :RAM.1/Pending/TestFile.

On the second Z88, create a file called "Pending" if you have not already done so, press [J]X to enter Imp-Export, Type R to receive a file, press ENTER and type in the file's full name, i.e. :RAM.1/Pending/TestFile.

On the first Z88, press ENTER, and watch the file transfer take place, ensuring that the receiving Z88 records the same number of characters as the first Z88 sends out.

Your transfer is now complete. Finally Press E and ENTER on the sending Z88 to tell the receiving computer that there is no more to follow.

You can also send a batch of files, using the Wildcard "\*". If you wish to send the contents of RAM.1 from your first to the second Z88,

follow the same procedure, but as a filename use :RAM.1/\*. On the receiving computer Press B followed by Enter. For those who intend to make up their own cables, skeleton information is provided on page 189 of the Z88 manual. If you are puzzled by the abbreviations used in the Z88 manual on page 189 then this is what they mean:

TxD = Transmit Data

RxD = Receive Data

RTS = Ready To Send

CTS = Clear To Send. Tells the computer when the buffer is not full, and more data may be sent.

GND = Ground (Earth) DCD = Data Carrier Detect.

DTR = Data Carrier Receive. +5V = a power supply to the printer.

#### LIBRARY NEWS

Some news, to start, that many have been waiting to hear! I am currently in the throes of uploading the Library (Z88 programs only) onto the Kybernesis BB (081-673 7294 v21-v22bis 8n1) so comms freaks can contribute to the profits of BT if they'd prefer to get your programs that way.

You'll have to register and quote your Membership Number (which will be confirmed) before you'll be given access to the Club files, so keep an EPROM envelope handy when you log-on.

Not all files, even Z88 ones, will appear on the Board. Z079 (because of it's size) and Z081 (because of the number of files) won't, so you'll still have to get those, plus most of the PC stuff from me, together with the other machine-specific programs.

Speaking of such matters brings me to the next piece of news which concerns the Library Listing. Some of you will already have seen the changes as I have phased them in over the past months.

In the first place I have photo-reduced it to the same size as Z88 EPROM (bear that in mind when sending stamped addressed envelopes) which has brought the postage down to:

1st Class : 20p    2nd Class 15p    Europe: 30p  
Others: 91p

It now contains an index of the programs in broad categories, namely BASIC Games, Applications, Utilities, PipeDream Applications and Machine-Specific Programs.

Finally, the zBase Files Library has been revived (contributions welcomed!) and there is a listing of the five applications I currently have available. All-in-all, I hope you feel that these changes mean greater value-for-money where the Library Listing is concerned - all that for just £1!

#### **This Month's Updates:**

Firstly, to all those who received a copy of Z081 since it's last update, part of the code was missing and the facility whereby files, if not in RAM were called in from EPROM, failed to work. This has now been corrected and the program expanded to now include an EPROM to EPROM file copier. The total length of the suite is now 23k.

Secondly, PCLink III is now at version 1.6.



**Z88 EPROM - August 1990**

Thirdly, the following have been added:

- Z116-7    Two more programs from Michael Hey (0703)
- Z116       TAB.BAS (1k) - a short BASIC/CLI program which will generate real TABs in PipeDream for indents, etc.
- Z117       MULTI-COPY.BAS (1k) - another short BASIC/CLI program which allows you to print multiple copies of PipeDream documents.
- Z118       STARTREK.BAS (18k) - converted from PC to Z88 by Matthew Soar, submitted by George Ogden (1078) and made to exploit the Z88 (a little) by Yours Truly!
- Z119       PROTECT.BAS (1k) - a file encryption program by George Ogden (1078) which checks to make sure you are using the correct key before de-encryption which also prevents you re-encrypting an already encrypted file!
- Z120       YAHTZEE.BAS (13k) - a superb rendition of the classic 5 dice game for 1 or 2 players. Written by Ian Hunnable (1850)  
          A=documentation  
          B=program

That's all for this month, hopefully there will be news for Amiga owners and, possibly, Archimedes owners in the months to come.

**Ian Braby MRPharms**  
**Software Librarian**

CLI Library Update

There is one new entry this month:

X016            Fetchall.cli by Darren Walton. This routine catalogues an EPROM in slot 3, and loads all the files from there into RAM.

I have received some more entries which will go on the list after I have checked them. more are still required, so please send any CLI routines you may have written to me at: 18 Woodside Road, Sandiacre, Nottingham. NG10 5GP.

**Money Matters....**

Please note that the CLI Library List costs 20p (cheap!) from me at the above address. A 20p stamp will do fine, but please don't forget to enclose a stamped, self-addressed envelope too. The main Software Library list, with over 100 programs, costs £1 plus postage from IAN BRABY - I cannot supply it, so please don't send your pounds to me.

**IBM Disks**

Finally, to those optimists who insist on sending IBM PC disks to me, I will return them eventually, when I find someone who can transfer the files. I only possess an XOB drive, which is not IBM compatible. (You were warned!)

Michael W. Hey  
CLI Librarian.

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